

Concerning Mr. E. Meyrick's views of certain New Zealand and Australian forms of LEPIDOPTERA; by ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

In an article read before the Philosophical Institute of Canterbury, New Zealand, on the 4th May, 1882 (a copy of which has kindly been forwarded to me by the author), Mr. Meyrick has turned his attention to the *Crambidae* and *Tortricidae* of New Zealand; unfortunately, as a considerable number of Walker's types are unrecognized by him, there can be little doubt that some of his new species will have to fall before them; for, although his statement on page 67 that "the remaining descriptions of Walker, not quoted here, are all unidentifiable in themselves, and unrecognizable from the loss or original bad condition of the types," may be accepted as final by Lepidopterists in New Zealand, it will not hinder students in Europe who have access to the British Museum collection from accepting Walker's names in preference to Meyrick's.

In the second place it is hardly conceivable that the multi-form variation ascribed in this paper to many of the known species can be explained by any other supposition than that Mr. Meyrick, during his sojourn in London, had not sufficient time to note all the forms in the Museum collection so accurately as to prevent his wrongly identifying them after the lapse of years.

For an author thus standing upon unsafe ground, boldly to attack every writer upon the Lepidoptera of New Zealand, and, so far as concerns myself, without much regard for courtesy, seems to me to be unwise; not only as confirming the assertion made by some Naturalists that "Lepidopterists as a rule are ill-natured in their treatment of each other," but as rendering his errors, which according to his own admission are by no means light ones, the less likely to be passed over without comment.

E

Mr. Meyrick states that *my authority* as regards the Micro-Lepidoptera “is as unreliable as that of Walker” and he bases this statement upon almost the first paper published by me in which Micro-Lepidoptera were described, a paper moreover in which I tacitly declined the credit of the generic identification of the species (see pp. 380 and 405, where I mention those who kindly assisted me), the authority therefore was not mine, but that of Entomologists better known to science than Mr. Meyrick himself, though I cannot assert that their studies, like this author's, have been confined to the Micro-Lepidoptera, and, therefore, it is possible that his identifications may be more accurate than theirs; recently I have trusted much more to my own examination of structural characters than I thought it wise to do when just commencing the study of Micro-Lepidoptera, and, consequently, in his criticism on my more recent work Mr. Meyrick has been obliged to confine himself to indignant remonstrances with me for placing species in the *Gelechiidæ* instead of the *Depressariidæ*, and vice versâ, forgetting that, until he defined these families in one of his latest memoirs, “*Gelechiidæ*” alone was generally recognised; he also contradicts my statements as to neuration in certain species, forgetting that I have had experience in the study of wing-veins, and that constantly, for the last 17 years at least; and, therefore, that my examination of a Micro-Lepidopteron may perchance be accurate.

Returning to my paper in the Proceedings of the Zoological Society for 1877, which is the memoir most vigorously attacked by Mr. Meyrick, I may call attention to one point: Mr. Meyrick says—“For example, as I have pointed out hereafter, he has described three *typical* species of *Crambus* and referred them separately to the *Galleridæ*, *Phycidæ*, and *Chilonidæ*, three groups which do not even, so far as is known, occur in New Zealand at all”; in answer to which I must first of all deny the last charge made against me, since I referred the third species to the “*Crambidæ*,” not to the *Chilonidæ*, neither did I recognize such a family, nor does *every* Lepidopterist at the present day; indeed the views of Mr. Meyrick as to what constitutes a family of Lepidoptera are, in my opinion, entirely erroneous; a family should be based mainly upon characters offered by the larvæ and

pupæ; those of the imago being admitted; but as of secondary value; if, on the other hand, we are to found families upon differences in the structure of the wing-veins, the *Zygænidæ* alone may be subdivided almost without end. It is true that in some groups, such as the *Geometrites*, families have been created by M. Guénée and others which we do not possess evidence enough at present to overthrow; but some of which *must* eventually be amalgamated; this fact, however, does not warrant an Entomologist of the present day in uselessly adding to the structures which his successors will be compelled to overthrow. In the second place, as regards the typical character of the three "*Crambi*" described by me—of the first, which I called *Hypochalcia corrupta*, Mr. Meyrick says—"Very distinct through the combination of the dark fuscous blotches and white median streak," but he does not mention that the secondaries are also unusually large as compared with the primaries, that the discoidal cell of the secondaries is unusually long and the median branches, consequently, are extremely short (none of which characters are typical); of my *Aphemis strigosa*, however, he says that the forewings are "broader than usual" showing that the second species is not typical, whilst the third species, *Chilo leucanialis*, was also referred to *Chilo* by no less an authority than Professor Zeller, and is admitted by Meyrick to be "Very distinct by its large size, narrow forewings, produced apex, and the white suffusion of the forewings leaving only a narrow longitudinal submedian band of the ochreous ground colour," thus the third of the three "typical" species is proved by Meyrick himself to be anything but typical. Moreover, Mr. Meyrick would have it appear, in his introduction, that I *alone* have thus sinned against Entomological science, yet on page 33 I find that "*Crambus subulosellus*, Walk., *C. trivirgatus*, Feld., and *C. rotuellus*, Feld., do not belong to this family at all," perhaps it is to that our critic refers when he says "Felder has figured a small number of species, but as his figures are commonly poor and hard to identify, and his classification wholly conjectural, it would have been better if he had left them alone." This is another evidence to me of the disfavour with which those Entomologists who never figure their own species look upon the illustrations published by their contemporaries.

Furthermore, Mr. Meyrick states that I have "described the sexes of one of the *Tortricina* as two distinct species, and placed them in two distinct genera in different families"; this may be so, but, if it is, there are two utterly dissimilar females to the same species, one of which is not only unlike the male, but like species of the genus *Stenoptycha*; in the second place, as we only possess a pair of the first form described, and one specimen of the second; as their expanse of wings (not from tip to tip of primaries, as many Lepidopterists measure, but *fairly*, from tip of wing to centre of thorax, doubled) is exactly $4\frac{1}{2}$ lines, and therefore it would be impossible to make a critical examination without breaking up the types, the question must for the present remain an open one.

In some instances I am accused by Mr. Meyrick of giving bad descriptions, at other times he remarks upon my having altered my mind as to the location of the species; to the first I reply by referring to p. 4 of his paper, where Mr. Meyrick after saying that Zeller's descriptions are all easily recognizable, immediately goes on to thank him for sending figures which enabled him to "ensure their accurate determination"; it would, therefore, seem that although the descriptions were so excellent that Mr. Meyrick recognized them as representing *something*, it was, nevertheless, necessary for him to have figures to enable him to determine *what* they represented. As touching my failure in omniscience, and the consequent growth of my knowledge regarding the affinities of species, I should certainly apologize to my critic but for the fact that he has virtually admitted his own liability to err, even in such easily detected characters as the creasing of the thorax; he says (p. 42) "I was also wrong in imagining the existence of a thoracic crest." Surely when a man has so lively an imagination as this, he can hardly claim to be a more reliable authority than Walker; however, I shall now pass on to examine more seriously Mr. Meyrick's views as exhibited in this paper.

In the introduction, Mr. Meyrick speaks of the terminology generally in use on the Continent of Europe as simple and adaptable, and far superior to the awkward and confusing nomenclature sometimes adopted. From what he subsequently

says it appears that he prefers a nomenclature which gives appropriate names to none of the veins, but numbers them all backwards: in the same way if Mr. Meyrick wished to describe the skeleton of a man, he would obviously begin with the bones of the great toe—"bone one, bone two," and so on up to the top of the skull. Though this plan has, as Mr. Meyrick observes the merit of great simplicity, it has also the demerit of giving different numbers to the same vein even in allied genera; it exhibits the genus standing on its head instead of on its base, as every properly constituted creation ought to stand. But, to proceed—Is Mr. Meyrick a consistent follower of this system? If so, why should he speak of so "awkward and confusing" a thing as "the upper surface of the lower median vein*"? Are there two middles to the wing? If not, there cannot be two median veins, and I do not wonder that Mr. Meyrick has to add the caution "Care must be taken to note the right vein."

My critic proceeds to state, in the following page, that—"It must also be especially borne in mind that the form of the wings is in general almost valueless for generic distinction, and should never be relied on," and yet on turning to page 9, we find that the only character not shared by the genera allied to *Scenoploca*, Meyr., consists in "the abbreviated wings of the female"; so that the male, in any key to these genera, could not range alongside of its own female.

Turning now to the genera and species, I find on page 8 a new genus described under the name of *Cryptomima* (a familiar sounding name, but possibly not previously used; which I regret to say is not always the case with this author's generic appellations), and as a synonym Walker's genus *Gadira* is quoted, without the slightest permissible explanation† as to why the latter name is rejected, though doubtless good and sufficient reasons may exist.

On page 15 some strange remarks are made respecting *Diptychophora metallifera*, of which Mr. Meyrick admits that he

* To be consistent they should be vein 2 and 6 or 7 or 8; all depending upon the number of radials and subcostal branches.

† That on p. 4 will only be admitted by Meyrick himself, it is altogether revolutionary.

possesses no specimen for description, but nevertheless is quite certain by intuition that my description is incorrect.

On page 27 is one of the most astounding triumphs of synonymic science, no less than seven descriptions being regarded as representing *Crambus vitellus*, of Doubleday, the excellence of whose descriptions does not appear to have hindered Professor Zeller from describing the species over again, and giving it three distinct names in the same paper; as this synonymy is worth repeating I give it here, substituting, however, the name of Meyrick for that of Doubleday for the heading.

Crambus vitellus, Meyr.

Crambus vitellus, Dbld., Dieff. New Zeal., vol. ii, 289.

Crambus nexalis, Walk., Brit. Mus. Cat. 178.

Crambus transcissalis, ibid, 178.

Crambus sublicellus, Z., Mon. Cr., 31.

Crambus bisectellus, ibid, 32.

Crambus incrassatellus, ibid, 32.

Crambus vapidus, Butl., Proc. Zool. Soc. Lond., 1877, 399.

No wonder the species is described as "very variable" when the forms associated above differ in form, colour, and pattern as much as any two species of the same group in the genus; of course Mr. Meyrick, before uniting them must have carefully reared the whole from one batch of eggs; for, without such evidence it would be the height of imprudence to dream of regarding them as mere sports of nature.

The next compliment intended for me by my critic, is in reality an attack upon the two artists, Edward Smith and C. Geyer, who are both generally admitted to be admirable delineators of insects, but who have, nevertheless, according to Mr. Meyrick, figured two examples of the same species, so little alike that I failed to recognise their identity, yet which the *ipse dixit* of my critic declares to be "hardly referable to any other insect" than one in his own possession; it must be very satisfactory for Mr. Meyrick to have before him a *complete* Micro-Lepidopterous fauna of New Zealand.

I have my doubts about the correctness of the synonymy

of *Capua semiferana*; *Grapholita abnegatana*, if the same, is a red variety, and *Tinea admotella* has much more robust and longer legs, so that I can hardly believe it to belong to the same genus; still, to a man who holds the view that "the legs and abdomen very rarely afford any characters worthy of notice," this difference may seem quite unimportant.

I do not accept the synonymy of *Adoxophyes conditana*; I hold that, although *Pandemis gavisana* and *Conchylis marginana*, are identical, they are distinct from *A. conditana* and from *T. flavescens*; and I much doubt the identity of the two latter; as to *Pyrgotis! porphyreana* and *Capua!! acristana*, of Meyrick, being not only congeneric, but conspecific, with Walker's *Adoxophyes conditana*, I leave so reliable an authority as a man who refers specimens of the same species to three genera to decide.

Of *Teras cuneigera*, Mr. Meyrick has seen two examples, and he has no doubt, consequently, of their identity with *Harmologa oblongana*; yet they differ from it in a character more pronounced than that used by Meyrick himself to distinguish *Tortrix philopana* from *T. pictoriana* (see page 50)—"Posterior costal spot distinct," inasmuch as *T. cuneigera* has not a costal spot only, but a broad triangular patch of colour and a different outline of wing; a character which I differ from Mr. Meyrick in regarding as of some importance.

One of the most startling discoveries that I made in going through Mr. Meyrick's paper was on page 47, where I found that this author at one time regarded a generic identification in my paper as more correct than one of Zeller's; indeed, he actually agreed with me in referring a species to *Cacoccia*; still more surprising is it, however, to find, on the next page, that in the case of *C. excessana*, Mr. Meyrick is even now at amity with me, I mean of course entomologically; for it would be absurd for those whose views differ in matters of science to be any the less friendly as men; as touching the synonymy of *C. excessana*, I believe all the species *Teras excessana*, Walk., *Teras biguttana*, Walk., *Tortrix taipana*, Feld., and *Cacoccia inana*, Butl., to be distinct, and not (as my excellent friend believes) sports of "a very variable species."

On page 51 Mr. Meyrick contradicts a statement, previously made by himself apparently, as to the affinity of *Tortrix charactana*, originally described by him as a *Cacoccia*, and which he now says "has no affinity with *obliquana*, Walk., as suggested," and on page 55 are two species described by this author, in the same paper, as belonging to different genera, but which he now refers to the same genus. Surely these instances are a sufficient proof of the possibility of growth of knowledge in the human mind.

My views of the synonymy of *Paridisca obliquana* are that *Teras obliquana*, Walk., is allied to, but distinct from, *T. spurcatana*, and that *Sciaphila transtrigana* and *turbulentana* are varieties of the latter; also that *Teras congestana* is identical with *T. cuneiferana*, but distinct from the foregoing species; I also hold, as regards the synonymy of *Stepsiceros ejectana*, that *S. ejectana*, *servilisana*, and *saxana* are identical, but that *S. absconditana* and *Conchylis ligniferana* are distinct; and these opinions of mine I hold to be of equal value to those of any man, be he specialist or not, who has no actual proofs to guide him in his decisions, and particularly in the case of one who so often contradicts himself as my critic.

When Mr. Meyrick was last in England, he brought his collection to the British Museum for comparison with Walker's and my types; and, since that time, he has not ceased attacking us both, in every paper that he has published, with a vigour worthy of a better cause: until recently, I took no notice whatever of these attacks, but at length they have become so personal in their character that, inasmuch as Meyrick is now generally regarded as a trustworthy exponent of the Micro-Lepidoptera, I feel called upon to add to the above a few facts tending to show that his testimony is not always to be accepted without due consideration.

First, as regards the character of Meyrick's descriptions, their language seems to me to be vague, not to say obscure, such terms as "forewings posteriorly dilated," "abdomen moderate," are constantly used, with many others equally perplexing, whilst the colours described are such as to convey no meaning "whitish-ochreous-grey" and "pale dull greyish crimson"

(being a modified form of yellowish blue in the first place, and a dull grey form of a colour which only exists when brilliant in the second place); such terms as these occur throughout the the descriptions of species, but when we come to genera, it is next to impossible to discover what the characters really are which indicate them; some of the terms have a spectral sound, as in the case of the following:—"the hindwings have eight veins, four and five stalked, sometimes rising out of three, seven and eight stalked," from which it appears that veins three, four, five, seven and eight are all stalked (whatever that may imply), and that four and five rise out of three, seven and eight; the meaning of such a riddle I am not ashamed to admit my inability to solve.

Where the diagnoses of genera are intelligible, the distinctive characters appear to be often slight; at the same time they may be sufficient, if strictly adhered to; in the case of *Eulechnia* however, the hindwings are described as "slightly narrower than forewings, elongate-ovate, hindmargins rounded, cilia half to one," yet under this genus I notice *Gelechia xylopterella*, of Walker, a species in which the apex of the hindwings is produced and very acute; it is possible that Meyrick failed in this, as in some other instances, rightly to determine Walker's species, indeed this seems almost certain from the description which he gives, and which by no means corresponds with the type in the Museum.

Considering that Meyrick rejects Walker's genera on the ground of their being imperfectly described and, not content with recharacterizing them, gives them fresh names, it would at least be supposed that his disregard for the law of priority would not extend to the appellation, which he proposes to employ, yet this is so far from being the case that such widely known generic names as *Eochroa* (*Saturniidae*), *Euchætes* (*Arctiidae*) and *Eupsilia* (*Noctuina*), are duplicated; though in the two latter instances the slight changes of *Euchætis* and *Eupselia* occur: there are doubtless other duplicate names, but at present I have not time to look them up, I only quote the above as being familiar to all workers in Exotic Macro-Lepidoptera.

Not only is Meyrick unorthodox in regard to genera, but also in the matter of species: if Walker confounded two or more species under a description, this author feels himself justified in rejecting both description and name: thus, in the case of Walker's *Palparia aurigena*,* which he states to be referable to three species (two of them forms previously named), he says that Walker's "var. B. is *P. hesperidella*, Meyrick; in which case I should hold that Walker's name would take priority, this being the general usage amongst Lepidopterists: Meyrick's note on this species also shows that he has not examined the specimens individually, since specimen *a*, from Sydney, is *P. rectiorella* ♂, specimen *c*, from Tasmania, is *Heliocausta incarnatella*; so that the observation that one of Walker's specimens of *P. rectiorella* is from Tasmania is erroneous: if Meyrick supposes the order of the specimen in the cabinet to correspond with that given in the catalogue, and has worked all these years in that belief, he must greatly have complicated the synonymy of the Micro-Lepidoptera of Australia: I may, however, state my opinion that, in the present instance, a synonym may be avoided, as we have received from the Godeffroy Museum a specimen answering to the description of *P. hesperidella*, but certainly not identical with Walker's *P. aurigena*; I fear, indeed, that Meyrick had not time to examine a considerable number of Walker's types, since he passes them over in silence, and if so, he has doubtless redescribed not a few; it is certain that his decisions respecting some of them were over hasty, as in the following instances:—

Æcophora retractella is given as a synonym of *Zonopetala decisana*; the species are apparently not congeneric, whereas *Æcophora ustella*, which is identical with *Z. decisana*, must have been the species intended.

Hoplitica absumptella, of Meyrick can hardly be Walker's species; the latter is decidedly more like *Heliocausta triphænattella* than appears from Meyrick's description; the hindwings, which Walker omitted to describe, are pale clear ochreous, with greyish-fuscous abdominal border and fringe, the latter with a

* I may remark that *Palparia* is a præ-occupied name.

darker basal line; it is indeed true that Walker's description is misleading, as the frontwings are pink, densely irrorated with red-brown, with markings of the latter colour and the costal margin bright rose-red.

Eulechria siccella and *scopariella* are described as distinct species, whereas they are identical.

I recognized a pair of Meyrick's *Schænobius imparellus* in the Godeffroy series, and a subsequent reference to the Zeller collection confirmed the correctness of my identification, the female seems to me to be structurally identical with *Scirpophaga praelata*, of Europe, excepting that the labial palpi are very slightly longer.

Crambus hoplitellus, Meyr., seems to me indistinguishable from *C. relatalis*, Walker, which, however, is regarded as distinct.

Prionophora ruptella is referred to the *Noctuina*!, Walker referred one of the *Limacodidae* to the same tribe.

Judging from specimens of *Eulechria griseola* and *Hoplitica myodes*, which I think I have recognized in the Godeffroy series, it would appear that their author has laid too much stress upon the banding of the palpi as a reliable character: I may, however, have mistaken the species, owing to the vague description of the upper surface; it is a singular fact that the under surface (where frequently the most prominent distinctive characters are to be found) is omitted from Meyrick's descriptions.

The genus *Cramphila*, Meyr., is a synonym of *Ubiola*, Walk.
